

Appendix B

Clean Version of Claims in U.S. Patent Application No. 09/620,162

In the Claims

Claims 1-22, are amended as follows:

1. (amended) A method of forming a doped A site deficient manganate material on a substrate from corresponding precursor(s), comprising liquid delivery and flash vaporization thereof to yield a precursor vapor, and transporting the precursor vapor to a chemical vapor deposition reactor for chemical vapor deposition formation of the manganate material on the substrate, said manganate material having a formula of $\text{La}_x\text{M}_y\text{MnO}_3$, where $\text{M} = \text{Mg}, \text{Ca}, \text{Sr}, \text{or Ba}$, and $0.5 < (x+y) < 0.9$.
2. (amended) The method according to claim 1, wherein the precursor(s) comprise coordination compounds, or Lewis base complexes of metal(s) selected from the group consisting of lanthanum, magnesium, calcium, strontium, barium, and manganese.
3. (amended) The method according to claim 1, wherein the precursor(s) include metal β -diketonate compounds, metal pivalate compounds, or Lewis base complexes thereof.
4. (amended) The method according to claim 1, wherein the precursor(s) include metal fluorinated β -diketonate compounds, or Lewis base complexes thereof.
5. (amended) The method according to claim 1, wherein the precursor(s) include metal pivalate Lewis base adducts.

6. (amended) The method according to claim 1, wherein the manganate material is selected from the group consisting of $\text{La}_x\text{Mg}_y\text{MnO}_3$, $\text{La}_x\text{Ca}_y\text{MnO}_3$, $\text{La}_x\text{Sr}_y\text{MnO}_3$, $\text{La}_x\text{Ba}_y\text{MnO}_3$, wherein $0.5 < (x+y) < 0.9$.
7. (amended) The method according to claim 1, wherein the precursor(s) are dissolved in a solvent and flash vaporized at a temperature of from about 100 °C to about 300 °C.
8. (amended) The method according to claim 1, wherein the precursor vapor is transported to the chemical vapor deposition reactor in a carrier gas.
9. (amended) The method according to claim 8, wherein the carrier gas is selected from the group consisting of argon, nitrogen, neon, helium and ammonia.
10. (amended) The method according to claim 8, wherein the carrier gas is mixed with an oxidizing co-reactant gas in the chemical vapor deposition reactor or prior to transport to the chemical vapor deposition reactor.
11. (amended) The method according to claim 1, wherein the chemical vapor deposition reactor contains a substrate article heated to a temperature in the range of from about 300 °C to about 1000 °C.
12. (amended) The method according to claim 11, wherein the pressure of the precursor vapor in the chemical vapor deposition reactor is from about 0.1 to about 760 Torr.
13. (amended) The method according to claim 1, wherein the chemical vapor deposition is plasma-assisted.

14. (amended) The method according to claim 1, wherein the precursor(s) comprise a mixture of β -diketonate compound selected from the group consisting of $\text{La}(\text{thd})_3$, $\text{Ca}(\text{thd})_2$ and $\text{Mn}(\text{thd})_3$.
15. (amended) The method according to claim 1, wherein the precursor(s) comprise a mixture of β -diketonate compounds selected from the group consisting of $\text{La}(\text{thd})_3$, $\text{Sr}(\text{thd})_2$ and $\text{Mn}(\text{thd})_3$.
16. (amended) The method according to claim 14, wherein said precursor(s) comprise a mixture of Lewis base adducts of metal β -diketonate precursors.
17. (amended) The method according to claim 1, wherein said manganate material has A-site deficient stoichiometry, where $(\text{La} + \text{Ca}) < 0.9$.
18. (amended) The method according to claim 1, wherein said manganate material has A-site deficient stoichiometry, where $0.5 < (\text{La} + \text{Ca}) < 0.9$.
19. (amended) The method according to claim 1, wherein said manganate material has A-site deficient stoichiometry, where $(\text{La} + \text{Sr}) < 0.9$.
20. (amended) The method according to claim 1, wherein said manganate material has A-site deficient stoichiometry, where $0.5 < (\text{La} + \text{Sr}) < 0.9$.
21. (amended) The method according to claim 1, wherein said manganate material has A-site deficient stoichiometry, where $(\text{La} + \text{Ba}) < 0.9$.
22. (amended) The method according to claim 1, wherein said manganate material has A-site deficient stoichiometry, where $0.5 < (\text{La} + \text{Ba}) < 0.9$.

Please add the following new claim:

27. (new) The method according to claim 1, wherein said thin film manganate material has a Curie temperature above 273°K